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| |  | | --- | | **Physical Science: FINAL EXAM STUDY GUIDE—EVANS—**  **SPRING 2015 This will be a daily grade as we are working on it. Then it must be turned in before you take your exam for a grade.** | |  | |
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| |  | | --- | | 1. What is the chemical symbol for phosphorus?\_\_\_\_\_\_\_ Helium?\_\_\_\_\_\_\_ Gold?\_\_\_\_\_\_ | | 1. Velocity is just \_\_\_\_\_\_\_\_\_\_\_\_\_ in a certain direction. | | 1. Water (H2O) would be an example of  http://njcmr.njit.edu/distils/lab/chemistry/Matter/mattcla.gif | | 1. Is an ice cube MELTING endothermic or exothermic? (1 point) | | 1. If you compress a DRY sponge, what DECREASES?   http://www.wehatetowaste.com/wp-content/uploads/2014/02/Screen-shot-2014-02-03-at-11.14.35-PM.png | | 1. An atom of Lithium has how many protons? | | 1. The correct name for the ionic compound shown: http://www.sigmaaldrich.com/content/dam/sigma-aldrich/structure1/057/mfcd00011230.eps/_jcr_content/renditions/medium.png | | 1. Balance the equation shown. What will be the correct coefficient in front of Fe on the reactants side after the equation is balanced? http://i1.ytimg.com/vi/tz5SAGQZDj8/hqdefault.jpg | | 1. If you went to the moon, what would happen to your mass? | | 1. Which end of the electromagnetic spectrum has the highest frequency and energy? | | 1. Atoms are the smallest particles.  True or False | | 1. Believed there were only four elements: Earth, Air, Fire, and Water. Lived approximately 2,000 years ago. | | 1. If energy is ABSORBED from the surrounding area in a chemical reaction--making the temperature of the beaker INCREASE and the temperature of the surroundings DECREASE--it is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reaction.  Edothermic or Exothermic | | 1. If you connect light bulbs in PARALLEL, and one goes out, what happens to the others? | | 1. The 5 in front of the oxygen on reactants side of this chemical equation is http://study.com/cimages/multimages/16/propane_balanced.jpg | | 1. Burning, rusting, fermenting, tarnishing, corroding, are all examples of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ changes. | | 1. The very first 3 shown in this equation goes with the http://study.com/cimages/multimages/16/propane_balanced.jpg | | 1. If an atom of Lithium is electrically neutral (not charged), it has how many electrons? | | 1. Is this circuit in series or in parallel?  http://powerup.ukpowernetworks.co.uk/media/21441/50.jpg | | 1. The correct name for water according to covalent naming rules: | | 1. How many atoms of Hydrogen are in a water molecule? | | 1. Which type of bond is made when atoms share electrons?  DRAW atoms forming that sort of bond here: | | 1. Balance the equation shown. How many total ATOMS of oxygen will be on the reactants side after the equation is correctly balanced?  http://i1.ytimg.com/vi/tz5SAGQZDj8/hqdefault.jpg | | 1. Chex mix would be an example of http://njcmr.njit.edu/distils/lab/chemistry/Matter/mattcla.gif | | 1. How many electrons can go on the second ring of a Bohr model? | | 1. How many electrons can go on the first ring of a Bohr model? | | 1. Which end of the electromagnetic spectrum has the longest wavelength? | | 1. The U.S. dropped two atomic bombs on cities in what country to end WWII in 1945? | | 1. Since atoms have mass and inertia, it takes force to move them; for example, the force that moves electrons through a wire in a circuit from a battery is called voltage. True or False | | 1. Write a BALANCED equation for photosynthesis. 2. What are the REACTANTS in photosynthesis? 3. The PRODUCTS of photosynthesis from plants include glucose sugar (food) and | | 1. If you went to the moon, what would happen to your weight? | | 1. If you take the whole mass (or "weight") of an atom (just what's in the NUCLEUS)...and SUBTRACT the number of \_\_\_\_\_\_\_\_\_\_\_\_\_, you get the number of NEUTRONS. | | 1. Is striking a match endothermic or exothermic? | | 1. What is an “electrolyte” and how are they used in a human body? 2. Name the common electrolytes. 3. Name 3 elements that would NOT be electrolytes? | | 1. If you add two elements together to make a larger molecule, such as hydrogen + oxygen ==> water, what type of chemical reaction is this? | | 1. Making good behavior choices leads one way--towards reaching your goals and dreams. Making bad choices leads the other way, sometimes with permanent consequences.  True or False | | 1. Most houses are wired with what type of electrical circuits? http://powerup.ukpowernetworks.co.uk/media/21441/50.jpg | | 1. Boiling, condensing, crumpling, tearing, freezing, grinding, vaporizing, melting are all examples of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ changes. chemical or physical | | 1. Which compounds have PREFIXES in their chemical names?  |  |  | | --- | --- | |  | ionic | |  | neither ionic nor covalent | |  | both ionic and covalent | |  | covalent | | | 1. How many total atoms of Hydrogen are there from water on the reactants side of the Photosynthesis equation?  http://education-portal.com/cimages/multimages/16/Photosynthesis_art2.jpg | | 1. Which nuclear reaction happens in all stars (including our own sun) to change mass into energy?  fusion or fission | | 1. Which elements on the periodic table want to GAIN electrons the MOST? (Which have the HIGHEST electron affinity and ionization energy?) (1 point) http://image.tutorvista.com/content/feed/tvcs/PERIODIC_TRENDS2.jpg | | 1. Name the semi-metals (or metalloids)? | | 1. Energy that travels through space in the form of waves is called | | 1. How many ATOMS are in a water molecule? | | 1. The first 3 shown in this chemical equation is a coefficient, or a subscript? http://study.com/cimages/multimages/16/propane_balanced.jpg | | 1. If energy is RELEASED into the surroundings as HEAT--making the temperature of the surroundings INCREASE, and the temperature of the beaker DECREASE--this is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reaction. Endothermic or Exothermic | | 1. Alpha, Beta, and Gamma are all types of  http://images.tutorvista.com/cms/images/101/gamma-ray-emission.PNG | | 1. If an atom GAINS an electron, it has what charge? | | 1. Most elements on the periodic table are metalloids, metals, or non-metals? | | 1. What charge do neutrons have? | | 1. Resembled the solar system, with orbits where electrons could change energy levels.  |  |  | | --- | --- | |  | Bohr's Model | |  | J.J. Thomson's Plum Pudding (or Chocolate Chip Ice Cream) Model | |  | The Electron Cloud Model | |  | The Ancient Greek Model | |  | Dalton's Model | |  | Rutherford's Model | | | 1. Balance the following equation. What is the correct COEFFICIENT for Hydrogen on the Reactants side of the equation after it is balanced?  http://vectorkeepanionthiswebsite.weebly.com/uploads/1/3/9/9/13992380/1351441378.jpg | | 1. Our modern view of the atom, where we understand that electrons do not move like planets in orbits around the nucleus. This describes the possible locations of electrons around the nucleus.  http://3219a2.medialib.glogster.com/media/f2/f2086837e108be2a03c33d9ca867d6a36b10fe5db12f46cf0c4267018f9a8fd2/electron-cloud-model-jpg.jpg  |  |  | | --- | --- | |  | The Electron Cloud Model | |  | The Ancient Greek Model | |  | Dalton's Model | |  | Bohr's Model | |  | Rutherford's Model | |  | J.J. Thomson's Plum Pudding (or Chocolate Chip Ice Cream) Model | | | 1. Most of the elements on the periodic table are: Reactive or Non-reactive | | 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is how tightly packed together the material in an object is. | | 1. What is the SUBSCRIPT for Hydrogen in the Water molecule on the Reactants side of the Photosynthesis equation?   http://shs2.westport.k12.ct.us/mjvl/science/capt/questions/state_released/eco-photosynthesis.jpg | | 1. Most of the universe is made of what element? | | 1. To figure out how many NEUTRONS are in an atom, you just calculate: | | 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ discovered the dense positive nucleus with his gold foil experiment.   http://www.daviddarling.info/images/Rutherford_gold-foil_experiment.jpg  |  |  | | --- | --- | |  | Newton | |  | Einstein | |  | Dalton | |  | Bohr | |  | J.J. Thomson | |  | Aristotle | |  | Rutherford | | | 1. Which subatomic particles are found INSIDE the nucleus in an atom? | | 1. Is this circuit in series or in parallel?   http://cf.ydcdn.net/1.0.1.32/images/main/series%20circuit.jpg | | 1. The mass of the atomic NUCLEUS is called atomic mass. This is the number of \_\_\_\_\_\_\_\_\_\_\_\_\_ plus the number of \_\_\_\_\_\_\_\_\_\_\_\_ which are both in the nucleus of an atom. | | 1. Which subatomic particles are OUTSIDE the nucleus? | | 1. \_\_\_\_\_\_\_\_\_\_\_ is an atom that has lost one or more electrons, so it is left with a positive charge.  |  |  | | --- | --- | |  | Cation | |  | Anion | |  | Onion | | | 1. If an atom gains one or more electrons, it has what charge? | | 1. \_\_\_\_\_\_\_\_\_\_\_ is the amount of matter in an object.  |  |  | | --- | --- | |  | Velocity | |  | Density | |  | Volume | |  | Mass | |  | Weight | | | 1. What type of bond is made when atoms gain or lose electrons?  |  |  | | --- | --- | |  | covalent | |  | ionic | | | 1. Isotopes of a certain element always have the SAME number of \_\_\_\_\_\_\_\_\_\_\_, but DIFFERENT numbers of \_\_\_\_\_\_\_\_\_\_\_\_\_\_. | | 1. Which group on the periodic table does not readily form compounds? | | 1. If you compress (or squeeze) a DRY sponge, what stays the SAME?  http://www.wehatetowaste.com/wp-content/uploads/2014/02/Screen-shot-2014-02-03-at-11.14.35-PM.png | |  | | 1. What is the chemical symbol for Silicon? \_\_\_\_\_ carbon?\_\_\_\_\_\_  Chlorine?\_\_\_\_ | | 1. What is the COEFFICIENT for Carbon in the Glucose sugar molecule on the Products side of the Photosynthesis equation?   http://education-portal.com/cimages/multimages/16/Photosynthesis_art2.jpg | | 1. If you compress (or squeeze) a DRY sponge, what INCREASES?  |  |  | | --- | --- | |  | Density | |  | Mass | |  | Weight | |  | Velocity | |  | Volume | | | 1. Isotopes have different numbers of | | 1. Ion means | | 1. Which of the following would NOT be just a physical change, but would be a CHEMICAL change?  |  |  | | --- | --- | |  | melting gold to make jewelry | |  | boiling water for soup | |  | freezing water to make ice cubes | |  | tearing a piece of aluminum foil into small pieces | |  | burning gasoline in a lawnmower | | | 1. How many valence electrons does Neon have? (Hint: All Noble gases have this same number of valence electrons.) | | 1. In the Scientist project, which of the following WAS/WERE recommended during a job interview or professional workplace?  |  |  | | --- | --- | |  | Smile but do not giggle | |  | Keep an overall serious tone | |  | Be able to state why you think you should be hired | |  | All of the other choices | |  | Look the interviewer in the eye | |  | Keep cell phone off and put away | |  | Shake hands firmly but not too hard | |  | Sit up straight with shoulders back | |  | Try to answer every question | |  | Speak in a confident voice | | | 1. The force that gravity pulls an object: | | 1. Different ELEMENTS always have different numbers of | | 1. What is the base unit of mass in the metric system? | | 1. As you go to the RIGHT and UP the periodic table, the trend is for elements to be more http://image.tutorvista.com/content/feed/tvcs/PERIODIC_TRENDS2.jpg  |  |  | | --- | --- | |  | there is no trend, metals and non-metals are dispersed randomly throughout the periodic table | |  | non-metalic | |  | metalic | | | 1. Balance the following equation. How many ATOMS of Oxygen are on the PRODUCTS side after the equation is correctly balanced? (1 point) http://vectorkeepanionthiswebsite.weebly.com/uploads/1/3/9/9/13992380/1351441378.jpg | | 1. The atomic mass of Lithium rounds to what whole number? | | 1. The amount of space something takes up. | | 1. What is the chemical symbol for cadmium? | | 1. An atom of Lithium has how many neutrons? | | 1. Splitting an atom causes a chain reaction to change mass into energy in which nuclear process?  |  |  | | --- | --- | |  | fusion | |  | fission | | | 1. The MOST dangerous rays on the electromagnetic spectrum are \_\_\_\_\_\_\_\_\_\_\_\_\_\_; the LEAST dangerous are \_\_\_\_\_\_\_\_\_\_\_\_\_. | | 1. If you add heat energy to a substance like water, what happens to the speed of the particle motion? | | 1. If you connect light bulbs in SERIES, and one goes out, what happens to the others? | | 1. The correct name for the covalent molecule we breathe out is | | 1. What element has atomic number 1, meaning it is the simplest element, having only ONE proton in each atom? | | 1. When atoms form a chemical bond, the net charge is always | |  | | 1. A teacher who spent his spare time doing science experiments and trying to predict the weather, he proposed the idea that all matter is made up of atoms. | | 1. Disproved that atoms are the smallest particles in matter, giving us the early "Plum Pudding" (or chocolate chip cookie / ice cream) model of the atom with positively and negatively charged particles being randomly dispersed throughout the atom.  http://nobelprize.org/educational_games/physics/quantised_world/structure-images/fig2b.gif | | 1. Copper (Cu) has how many protons?\_\_\_\_\_  Neutrons?\_\_\_\_\_\_ Electrons?\_\_\_\_ 2. Give an example of a synthesis or combination reaction. 3. Give an example of a decomposition reaction. 4. Give an example of a combustion reaction. 5. Give an example of a single replacement reaction. 6. Give an example of a double replacement reaction. | |

1. Explain what you have learned this year in physical science that you think will help you in the future. ☺